

Title : Community Computers UK
Author : Richard Alexander

At the recent PCW show at Olympia I picked up two leaflets relating to Community Computers UK. They are a part of the Inter-Action empire and appear to offer help and training to the voluntary sector on computing. They also help arrange Computer Camps, computer activities in playschemes and youth clubs, and with unemployment projects with young people. The training courses they run seem quite cheap compared with the commercial courses currently available, but then again I would imagine that their clients are not as well-off as commercial customers. They also run a consultancy service but do not specify what areas this covers. They will be publishing two books in the new year which may (or may not!) be of interest to Black Chip readers :

"Which Hardware? Which Software? For charities/voluntary groups", costing £5.95 (or £4.70. plus p&p if pre-paid) and "Community Computer Projects" costing £4.95 or £3.95 pre-paid (plus p&p).

If I get sent copies of these to review I'll certainly do so, otherwise you'll have to find out what they're like for yourselves. Also if anyone has any information about Community Computers UK and whether their courses are any good then please send the relevant information to Black Chip and we'll pass on the info.

The address is Community Computers UK, Inter-Action Trust, Royal Victoria Dock, London E16 1BT (01-511-0411/2).

Title : Public Information and Public Communications Policy
Author : Mike Hailes

I have just received from Mike Hailes a draft working paper with the above title. It is intended as the basis for a policy document for the Communications Campaign. I haven't really had time to fully digest all the implications of this report or its proposals for action, but on first reading it looks very interesting, if a trifle statist in its orientation, especially as regards funding. It is premised on the return to power of a left-wing progressive party which will provide us all with lots of money so that we can use all the wonderful new technology being produced - rather like the scene at the GLC in the past year or two. I am somewhat suspicious of the politics behind this as if there's one game I'm not getting involved with, it's another mad scramble for money - either in "a jobs for the persons" scam or "money for them whose face fits" scam. All this being financed by taxes on Capital which happily sits there and lets it happen. Nahhhh... pull the other one!

Having said which, the issues that Mike raises are very important and as it is a draft paper I recommend that everyone writes to Mike c/o 125 Gosspops Drive, Crawley, W.Sussex RH11 8LF to get a copy and then add their views to it. If anyone gets it together in time we might be able to have an informed discussion around this paper at the readers meeting.

Richard

INPUT'S AIMS AND OBJECTIVES

- * To network those who object to the increasing use of high-technology in the military, and who want to encourage high-technology for human development.
- * To provide information concerning weapon systems, disarmament, development, the economics of the arms race, and alternative methods of defence.
- * To help develop plans for converting industry from military to peaceful production.
- * To encourage the development of positive, socially-useful applications of high-technology.
- * To coordinate action to de-escalate the involvement of hi-technology in arms development, production and deployment.

INPUT'S CURRENT PROJECTS

Monthly educational meetings.

INPUT/OUTPUT, a quarterly newsletter on issues of concern to INPUT supporters (\$10/year).

Helping organize an international conference on "Computer Reliability of Military Systems" (1986).

A Conversion Task Force to help develop plans for converting industry from military to peaceful production.

POSSIBLE FUTURE PROJECTS *

A working group to promote the peaceful uses of outer space.

An AlterNET Working Group to develop a computer network for those working towards goals similar to INPUT's.

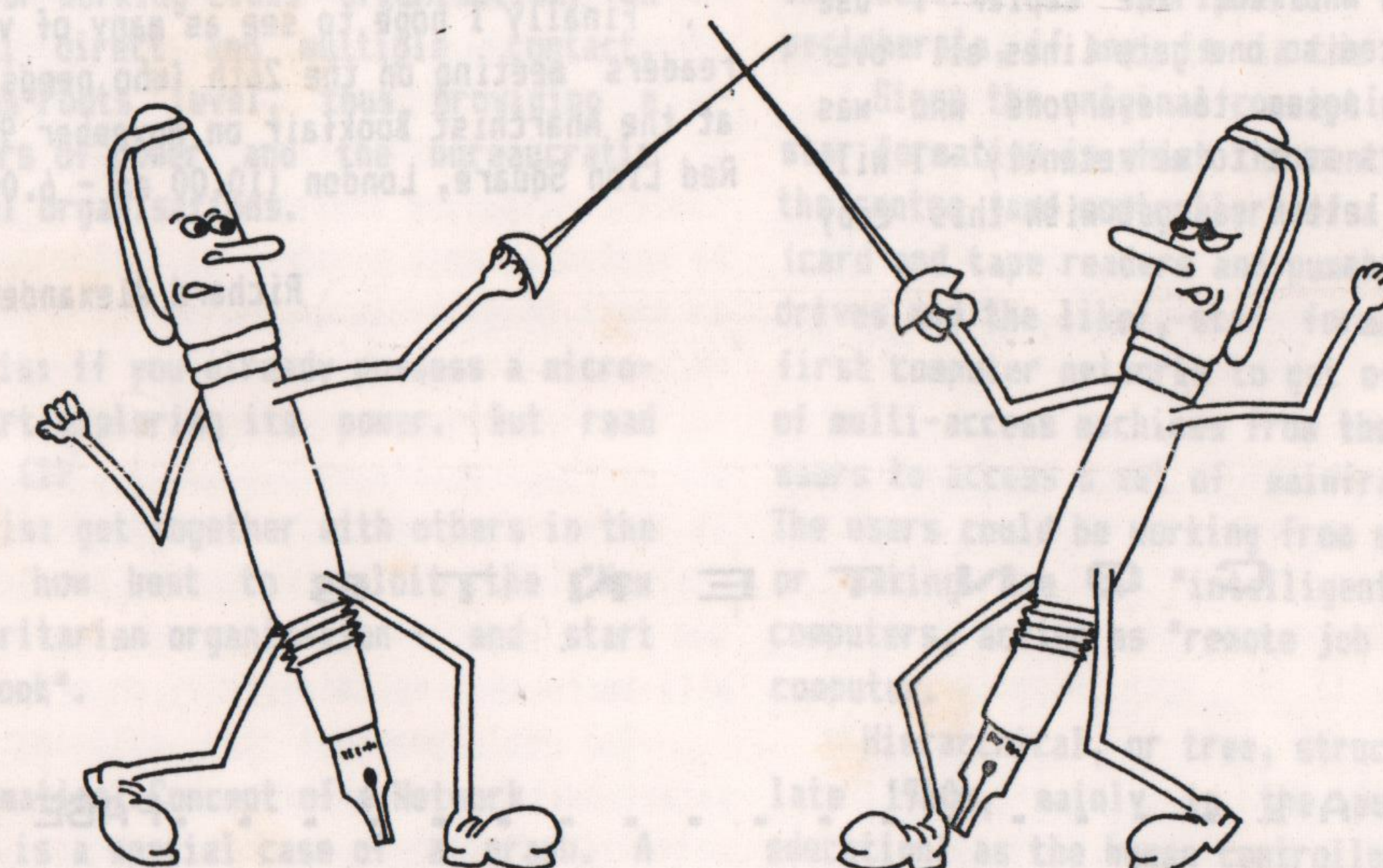
An Alternative Defences Project to help develop alternative defence plans for Canada.

- * INPUT welcomes your suggestions and involvement on any project.

INPUT (Initiative for the Peaceful Use of Technology)
Box 248, Station B
OTTAWA, CANADA, K1P 6C4
Phone: 613-230-6678

Black Chip

a journal of computing for anarchists
1985 Issue 3 60p



Thanks to Pan we are holding the first ever Black Chip Readers Meeting on Saturday, 26th October 1985 at 121 Bookshop, 121, Railton Road, Brixton, London. The meeting will start at 2.00 pm and continue until about 6.00 pm. We haven't got any set plans for the meeting, so if there's something in particular that you'd like to discuss, or even present a paper, please let me know in advance, so that I can plan accordingly. O.K. ?

If you live outside London, why not get a lift down with your local CND types, rather than pay out a fortune to BR. We may be able to put put up a few people, but only if we we get plenty of warning. O.K. ?

Richard

Welcome to the second printed copy of Black Chip. I hope that you will enjoy reading it. Please feel free to write in and comment on anything in Black Chip. It would make my life easier as editor if people writing in could distinguish between those items meant to be private communications and those for publication. Therefore I propose that all items addressed to "Black Chip" will be for publication and anything addressed to "Richard Alexander" will be private and not meant for publication. O.K. ?

Next, apologies. Firstly due to pressure of study, not to mention the time it takes to get this and the new Bulletin of Anarchist Research ready, I haven't been able to get the second part of my article written. Those of you who read the first part may remember that it suffered from a lack of proof-reading, so I'd like to take my time over the next part! Also apologies for the non-appearance of various reviews of journals and so forth that I'd hoped to have received for this issue - alas they have not materialised so you'll all have to wait a bit longer - assuming that they ever get written! Also I must apologise for the poor quality of the photocopying on the last issue, (and quite likely on this one as well!). This is due to circumstances beyond my control, i.e. the people who rent the copier I use can't be bothered to get it serviced so one gets lines all over the place - great! Finally apologies to everyone who was expecting to get answers to letters sent to me recently - I will try and answer them either in the letter you get with this copy of Black Chip, or shortly afterwards.

O.K. what's in store for the next issue ? Obviously a lot depends on what you all send in for publication. The deadline for the next issue will be November 30th, 1985. However I can let you know that there will be another instalment in the "Computers : To Use or not" debate hot from the pages of the Women for Life on Earth magazine, a 5 page article on Reagan's Star Wars plans and how they are dependent totally on computers, and that to work properly they will need to be 100% reliable the first time they're used - which all computer-buffs will recognise to be an impossibility. There may be the reprints from Here and Now and any other items of interest. That little lot already accounts for more than half the next issue, if I use them all, but obviously I give priority to original material, if at all possible. Regarding reviews, I understand that the next issue of the Radical Science Journal is devoted to computers - but I haven't seen it yet; there's bound to be some new books and software worth reviewing and if I'm really short of material I'll let you all know how awful (or otherwise) the Sinclair QL is, even at its new low price. But first I'll need to get a colour monitor and lead and some means of hooking it up to my printer - possibly using the Spectrum as a print spooler.

Finally I hope to see as many of you as possible at the readers' meeting on the 26th (who needs another CND Demo!), or at the Anarchist Bookfair on November 9th at the Conway Hall, Red Lion Square, London (10.00 am - 6.00 pm).

Richard Alexander

CONTENTS

EDITORIAL	PAGE 2
NETWORKS AND MICROCOMPUTERS	PAGE 3 - 7
REVIEW	PAGE 7
REPLY TO THE REPLY	PAGE 8
RESOURCES	PAGE 8
COMPUTER PROFESSIONALS FOR SOCIAL RESPONSIBILITY.	PAGE 9
ANOTHER REPLY	PAGE 10 - 11
ARTICLES	PAGE 11
LETTERS	PAGE 12 - 13
MACHINE INTELLIGENCE OR ARTIFICIAL INTELLIGENCE	PAGE 14
COMMUNICATIONS CAMPAIGN	PAGE 15
SHORTS	PAGE 16

JACK JONES

Thesis 1 :

A home computer by itself is of limited use. A home computer plus a modem and a telephone becomes a powerful tool with virtually unlimited uses; one can

- access the power and facilities of large computers,
- access an increasing variety of national and international databases containing much useful information,
- communicate with other computer users, nationally and internationally, directly or via a growing number of organised networks.

Thesis 2 :

Because of the large sales of "domestic" computers and the commercial opportunities for exploiting this market further by opening up access to databases and communication facilities for the domestic user, the price of modems has fallen drastically. This puts them within easy reach of working-class households and opens up many possibilities for working-class organisation. In particular it enables fast, direct and multiple contact, "horizontally", at the grass-roots level, thus providing a potential threat to the holders of power and the bureaucratic establishments of hierarchical organisations.

The message of Thesis 1 is: if you already possess a micro-computer, get a modem and start exploring its power. But read "The On-Line Handbook" first. (1)

The message of Thesis 2 is: get together with others in the class struggle to consider how best to exploit the "New Technology" through non-authoritarian organisation - and start by reading "The On-Line Handbook".

Brief note on the Mathematical Concept of a Network

Mathematically a network is a special case of a graph. A graph is simply a collection of points which may or not have connections between them. A network is a totally connected graph.

Graphs and networks may be displayed pictorially using circles (nodes) to represent the points and continuous lines (arcs) to represent the connections between them. If direction of connection is important, the arcs may carry arrow-heads to indicate either unidirection or bidirection; the diagram is then a directed graph or digraph.

A graph is totally connected if it is possible to trace paths along the arcs to show that each and every pair of nodes is connected directly or indirectly. If any circular path exists in a network we have a special case of a network, namely a mesh.

Graph theory, network theory and mesh theory have proved to be extraordinarily useful in analysing systems of all descriptions; the elements of a system are treated as nodes and relationships between them are treated as arcs. In particular, network theory has been used extensively to analyse the properties of organisations and to design information systems to serve their needs for information processing and communication.

All political animals, from anarchists to fascists, are concerned about human social, economic and political systems and would do well therefore to acquaint themselves with the

rudiments of network theory and its application to human organisations. (2) It is particularly important to do so if one is concerned with the impact of the so-called "new technology" upon society. The internal circuitry of a computer is a network. A configuration of a computer and its peripheral devices is a network. Computer programs are networks. Data structures are networks. Systems involving computers and people are networks. But when the term "networks" is used in the context of computer technology it usually refers to systems which allow for direct communication between computers.

Computer Networks

In computer networks, the nodes are computers and the arcs are channels for passing information between them. Computer networks have been with us the early 1960s when IBM hooked two machines together to enable them to share their joint storage capacities. Since then we have had many variations on the theme. Popular configurations are the star, tree and ring formations.

A star formation has a centre or hub and radial links from the centre to peripheral nodes. Communication between peripherals, if any, is via the centre.

Since the original concept of a computer installation was a star formation in which the central processing unit (CPU) was the centre (and controller) of a variety of peripheral devices (card and tape readers and punches, printers, tape-drives, disk-drives and the like), star formations between CPUs were the first computer networks to get off the ground. The introduction of multi-access machines from the mid 1960s enabled a number of users to access a set of mainframe facilities simultaneously. The users could be working from slow terminals (teletypewriters) or making use of "intelligent terminals", that is other computers, acting as "remote job entry stations" to the central computer.

Hierarchical, or tree, structures began to develop in the late 1960s, mainly in the public sector (government and education) as the human controllers of star formations sought to link their central mainframe computers to more powerful mainframes (superstars ?) elsewhere. All manner of communications channels were explored and incompatibility problems between systems were encountered and largely solved. Closely situated units could be hardwired together (cables and digital signals). More remote units could use telephone systems, requiring signal conversion (digital to analogue and analogue to digital) by means of a modem at either end. Cheap systems could use the public telephone system at a low baud rate (about 100 bits per second); dearer systems could rent dedicated cables from a telephone company, giving a greater density of data transmission (several thousand bauds) and better data security because of freedom from interference (noise). Into the seventies, as the international telephone system improved with the use of communications satellites (eg Telstar) and the introduction of STD (standard telephone dialling), large network systems began linking up internationally and between continents. Meanwhile local area networks (LANs) began using their local (PABX) (private or internal) telephone systems to carry voice and data simultaneously (to save doubling up on the cable), and to experiment with short range radio communication.

Simultaneous voice and data transmission over the public telephone system will be possible in Britain in a few year's time, as soon as British Telecom complete the installation of

"System X", which will substitute "package switching" computers for the present telephone exchanges. Under System X, all transmission will be digital with a consequent economy in modems. A limited form of System X already exists; known as PSS (packet switch system), it offers fast transmission for data only at 4800 bauds.

As star and tree structures developed, the ideas of databanks, databases and distributed processing began to emerge.

The concept of a databank is of a set of files, held centrally in a star structure, to which a number of users may have simultaneous access, variously to read, write, delete and alter data. Clearly such a system must have rules to deal with "contention", that is two or more users attempting to access the same file or record simultaneously. The databank managers are also likely to introduce privilege rules to privatise certain data or to give read-only rights to certain users in order to protect the ownership rights of others.

The term "databank" is now rather old fashioned and has been replaced by "database". Strictly speaking however "database" was introduced to refer to a different concept. With the increased use of multi-access and network systems within organisations, the "applications programming" function (as distinct from "systems programming") began to slip away from the centralised data processing departments into user departments. It became clear that user departments needed to access common data, centrally held, but had different requirements for the structuring of that data. Hence "database management systems" (software) were developed to intervene between application programs and the common data base. A DBMS system has the twin aims of producing "data transparency" for the users and "data independence" for the data base manager. Data transparency enables users to think of the data as being structured in the way they have specified by means of a "data description language" (DDL). DDL statements precede program statements which then proceed to treat the data as if it were structured as specified. Data independence means that the DBMS manager can rearrange the actual structure of the data, e.g. to increase the efficiency of data storage and retrieval, without causing a need for the applications programs to be rewritten.

These databank and database developments began to show that in many cases it was the data that needed to be centralised rather than the processes performed on that data. Hence the idea of "distributed processing" in which the role of the central CPU is diminished to that of a file server to a number of intelligent terminals which divide the work of processing the data between them.

Whilst these developments were taking place in the seventies, the network developers were experimenting with ring systems. A ring structured network is one in which computers (and possibly other devices) are connected by a data highway in the form of a ring. Data is loaded to travel on the highway with the address or addresses of its destination(s). Ring structures are good for broadcasting the same message to all other units in the ring or to a selected subset of units. The same effects can be achieved within a star system but not so efficiently. Naturally any given CPU may be connected to more than one ring system and may also be a participant in a star or tree structure.

When two or more computers are linked permanently by dedicated connections, the forms of the data (character codes,

formatting and parity checking arrangements) are known and can be peculiar to the devices concerned. But when connections are intermittent and the same channel is used by different systems at different times there is a need for "handshake routines" to establish not only indications of readiness to send and receive but also the forms of the data to be transmitted so that the two machines can separately apply the appropriate code conversion routines for the duration of the coupling. Ring systems cannot tolerate such ad hoc arrangements; data travelling along the highway must be in some kind of standard form and handshaking routines for intermittent users to enter the ring must be standardised. Nevertheless, conforming with the standards (protocols) of a particular ring still enables otherwise incompatible machines to communicate by means of that ring.

The Telephone System - System X (PSS) and Prestel

Now the Post Office has been aware of all these developments whilst they were taking place and, several years ago, dreamed up two of the most imaginative projects yet conceived. System X, I have already mentioned, will provide for digital (instead of analogue) transmissions throughout the telephone system, employing the ingenious notion of "packet-switching": fragments of messages, be they (digitalised) voice or digital data emanating from computers, will be tagged with their destination address (i.e. STD telephone number) and will be routed through a number of exchanges (i.e. digital computers) as parts of bulk packages sent at high baud rates between exchanges. Each exchange will be unwrapping incoming messages, sorting the message fragments according to their destinations and rewrapping them into packages for onward transmission. Such is the speed at which this can be done, that both sender and receiver will have the impression of continuous direct contact and it is expected that the high densities achieved by packaging will increase line capacity by an order of magnitude.

The replacement of the existing telephone exchanges by packet-switching computers will take a few years to complete. To date fifty have been converted (three in the London area) and provide the PSS service (for data only - i.e. not voice) which enables a greater economy for bulk data transmissions than the ordinary service (i.e. at about a quarter of the cost).

The other imaginative project conceived several years ago was Prestel, which is already with us and is destined to increase its scope dramatically over the next few years. Politically it is interesting to note that the present Conservative Government, recognising that both System X and Prestel would be fabulous money-spinners, deliberately intervened to prevent the Post Office developing these schemes at their proposed rate until they (the government) were able to split off and privatise British Telecom from the Post Office. Now that it is in private hands BT has been given the go-ahead to proceed with these most lucrative projects. Such is the naked greed of the capitalist beast !!

The Prestel system allows the ordinary user to call up onto a TV monitor screen any one of a large number of "pages" held by BT on a vast amount of backing store. An ordinary TV set and an ordinary telephone can be converted for this purpose by adding a suitable modem and a hand-held pad for pressing the decimal digit keys for the page number required. Many of the pages carry no viewing charges; some of them cost from 1p to 10p per page at

the whim of the Information Provider (IP); all of them incur the cost of the telephone units, for however long you stay on-line, and there is a charge of 6p a minute to be connected to the Prestel system during business hours (8am - 6pm, Monday - Friday and 8am - 1pm on Saturday - no connection charge at other times). These charges are in addition to the Prestel subscription (£18.00 per quarter for business users and £6.50 per quarter for residential customers).

IPs pay bigger subscriptions and then buy blocks of pages on which they can enter any data they please. IPs also decide the viewing charges for their pages and any restrictions they may wish to put on who may view their data.

Prestel is not just a one-way flow of information (like BBC's Ceefax and ITN's Oracle) from IPs to ordinary customers. There is a variety of ways for ordinary users to enter information. Typically however these are by methods constructed by IPs. For example, mail-order applications enable users to indicate, by numeric code on their key-pads an item to be purchased and a credit card number to be debited. Keypads fitted with alpha keys enable messages to be sent back to IPs, if message panels are provided on pages, and also allow messages to be sent more freely (and confidentially) to other Prestel users by means of the "mailbox" service.

At the expense of paying a higher tariff, a Prestel user with a computer plus a modem can use the system more intelligently, reducing the amount of time spent on-line and thus economising on connection charges and telephone units used. The trick is to decide in advance which pages to view, get on-line, "download" these pages to your own backing store, get off-line and then take your time viewing pages brought up from backing store on to a monitor. Standard programs can be written to perform this trick, treating the page numbers as variable data to be entered when the program is invoked. One of the more expensive modems with auto-dialling facilities can reduce on-line charges even more; dialling the Prestel number and the log-in procedure can now form a standard part of the program. Note that the backing store required for this trick should be a disk-drive (hard or floppy); cassette tape drives cannot operate at the speed involved (1200 bauds).

The uses to which the Prestel system can be put are "endless" as the advertising blurb puts it. In a sense this is true and many businesses and institutional users have discovered that it is cheaper to use the Prestel system than to run their own networks. They mainly use private pages with "confidentiality assured". Prestel represents a threat to other types of media. There is no reason why IPs shouldn't provide newspaper, magazine and journal data via Prestel. Users can flick through the pages, ripping-off whatever they like onto their micros, producing hardcopy later on their printers. Text presents no problem. Graphics can be managed best with high resolution colour monitors and ink-jet colour printers for hard copy. Photographs are problematic but progress is being made with picture transmission and reproduction.

Does all this mean real freedom of the press? Can we run anarchist newspapers via Prestel with real participation by the readership via message panels and mailbox? On the face of it, yes, but Prestel exercise a censorship. All "uploaded" data is censored before becoming generally available. Prestel are mainly worried about their legal liability for data they make available so provided anarchists refrain from libel and the use of obscene

expressions they may be able to mount their literature on Prestel without being politically censored. The major effect will be to put revenue into the pockets of BT shareholders, who can do their laughing in their armchairs whilst their electronic accounts are automatically credited. Apart from the possibility of being politically censored, a nasty consequence of the censorship is a 24 hour delay in new data becoming available.

Microcomputers

Five or six years ago, when the first microcomputers appeared, in the wake of the minis and courtesy of the silicon chip, they were greeted with enthusiasm in many quarters, especially by those who saw in the micros the possibilities of decentralised computing and cheap access to computing facilities for all. In particular many of the schools which provide computer education turned away from teletype access to the computer centre of their local technical college in favour of having microcomputer facilities under their own control.

There were also the decriers. An article in Computer Weekly announced that "micros have bombed us back into a computing stone age". When you compared the sophisticated operating systems, programming languages, editors and other software aids to programming, application packages, extensive filing facilities and sheer speed of operation available on multi-access systems, (which in most cases were networked upwards to even more powerful machines and more luxurious software goodies) with a little, stand-alone, 4K, 8-bit micro, boasting only a machine-code loader, and, if you were lucky, an assembler, then the truth of the statement was self-evident.

However, one could see that inevitably micros would become more powerful and cheaper, and that in time decent software would be developed to turn these toys into something useful. Until that day arrived, the best use for a micro was to use it as an "intelligent terminal" to a multi-access system. But then, if you were not an "educational user", how did you get access to a multi-access system?

It has been primarily the access problem coupled with the eagerness of the public to get their hands on the "new technology" which has accounted for the large volume of sales of micros to small businesses and domestic users. Behind this eagerness one detects degrees of panic. Small businessmen feel the competitive need to keep abreast of the latest innovations in business data processing and fond parents hope that home computers will transform their offspring into computer wizards so securing their places in the future job market. To date some two million micros have been sold to domestic users alone. In a sense most of these users have martyred themselves to the cause of microcomputer development. By buying useless toys (like the one this paper is produced using, Ed.) they have helped increase the size of the market and provide funds for the development of the more powerful micros and a certain amount of useful software which is currently on the market. Another terrible price that has been the permeation of micro society by the Basic language with all its evil programming habits which will be difficult for the first generation of micro users to unlearn.

The Communications Campaign

I have received copies of two recent publications by the Communications Campaign, entitled "In The Know" and "Inside The Black Box". As far as I can tell both of these publications are free and can be obtained from: The Communications Unit, The Showroom, South Block, County Hall, London SE1.

"In The Know" is a brief look at the issues around the privatisation of British Telecom, in particular how this may affect the way that electronic data systems will be implemented. It also looks at the possible implications for workers in British Telecom itself. As an introduction to this area it can be recommended, especially as it seems to be free.

"Inside The Black Box" is a more detailed analysis, focussing on ICL's One Per Desk computer/intelligent phone terminal. It emphasises that this technological development is the outcome of particular design and financial strategies which will have a knock-on effect in the work places where they are installed - both for those working on them directly and for those who have to maintain them. Again, well-worth the money, (i.e. it's free). I'm glad that someone is undertaking this level of analysis but am a slightly worried about what may happen to the project when the GLC is abolished as it totally dependent on the GLC for finance.

NOTICE

ARCHIVES FOR FORTEAN RESEARCH

From the publication of this notice I wish the projects and prospectus of what was formerly named the Institute for Fortean Studies to be now known as **Archives for Fortean Research (AFR)**.

AIMS & PURPOSES

AFR is intended to be a private information network based on mutual help with research and data exchanges, backed up by a computer database. Serious researchers may like to consider the advantages of contributing their data to TOAD (see below), either as a backup to their own files, or to have access to the relatively sophisticated retrieval techniques available through dBASE III and an IBM PC with a hard disk. Confidentiality of data is no problem. Please write if you wish to know more.

PROGRESS REPORT

★ **GENERAL CATALOGUE OF FORTEAN AND RELATED SUBJECTS** - The third edition has been completed and is now being critically evaluated by selected researchers with a view to correcting its errors and omissions. The fourth edition will be a corrected and expanded version incorporating the subject codes used by the Fortean database. The fourth edition will be the first to be made available to any interested party, hopefully before the end of this year (1985).

★ **FORTEAN DATABASE** - Known affectionately as TOAD. The virtue of using a powerful database language like dBASE III is that an application can be tailor-made. That's what I'm doing, and it's taking time. Programmes are being written for data entry, special inquiry procedures, database maintenance, and special report and list generation. The run-time version will be as user-friendly as possible, and driven through menus of options at each stage. A simplified form of the database programme for general use will follow on from this project. More on that in future reports.

★ **DATA ENTRY FORMS** - Because they relate to the data entry programme, these forms could not be finalised until the programme itself was determined. This is nearly complete and printed pads of forms will be made available soon. These will be free to anyone interested in contributing data to the database. Watch for the announcement in FT.

DONATIONS

I would like to thank the following for their generous donations: Richard Alexander; E.M.Carruthers; Peter Christie; Loren Coleman; Celia Cotton; Richard Cotton; Stephen H.Dickens; Tim Dinsdale; A.Dodds; Ron Gauntlett; Brian Hain; J.Lang; V.E.W.Lewis; A.Lopez; Kurt Lothmann; C.J.Martin-Ross; Colin Mather; A.B.Petrie; Pokkettz; David D.Sellon; Rupert Sheldrake; David Sutton; P.R.Thomas; R.Thompson; Roger Waddington; Simon Welfare.

Development of the database, and making the data entry forms available FREE needs funds. If you would like to support our work with a donation, it would be gratefully received. Please make it payable to **Archives for Fortean Research** and send it to:

Bob Rickard
ARCHIVES FOR FORTEAN RESEARCH
 1 Shobury Road, East Ham, London E6 2AQ, UK.

The potential of such communication systems for other areas of knowledge is vast. One can imagine everything from free courses in atomic physics to public disclosures of political corruption. "Downloading" of data is of course not only possible but is encouraged. There is already a "communism of software" practiced on bulletin boards, and - no surprise for libertarians - authors of programs which are freely plagiarised are proud to know that use is being made of their work by others. Of course some callers are immature and contribute obscene graffiti to bulletin boards. One host appears to have cured this problem by allocating a file area, "The Wall", expressly for this purpose.

Host-owners appear to spend an average of 10 hours a week on their systems. Part of this time is file and system maintenance, part of it is creating their own bulletin items and part is spent browsing over the contributions of others with a natural curiosity to see how the system is being used.

Democratisation of Organisations

Most organisations in our society are hierarchical, that is tree-structured, with power concentrated at the top (i.e. the root node) of the tree. Working class organisations tend to conform to this rule, especially trade unions and political parties. Fascists celebrate the "leadership principle" and stress the need for obedience of the rank and file. Stalinists and others achieve the same effect whilst hypocritically claiming democratic organisation. The so-called "democracies" of the "free world" maintain the illusion of democracy through universal suffrage but manage to concentrate power centrally by the trick of "representative government". Management theorists declare hierarchy to be both natural and efficient - and then go on to deal the inefficiency problems of "span of control" and "chain of command".

Of course anarchists know that hierarchy is neither natural or efficient and can quote the good old Spanish CNT to prove it. Old Spaniards who remember the CNT as it was before Franco, when it was the common union for the entire Spanish working class, will insist upon telling you the virtues of its main organisational feature, which was "horizontale, no verticale". The only officers were the regional secretaries who had no executive power but were simply "post boxes". An organisation without leaders is incapable of being sold out by its leadership and cannot suffer from the perpetual struggle between the leadership and the rank and file which affects all hierarchical organisations.

The similarity between the role of the CNT secretaries and the role of amateur bulletin boards is worth noticing. On spotting this some pundits have begun to see in microcomputer networks possibilities of democratising working class (and other) organisations. Maybe by connecting up the rank and file in a horizontal fashion we can break the power of the union and party bureaucracies. But maybe not. We already have horizontal communication by means of the public postal, telephone and telegram services. What perhaps is missing is a will to democratise. So long as we have rank and file attitudes that expect to have leaders, so long as we are slaves to the habit of setting up officers and executive committees, we will go on having hierarchical organisations.

Maybe - and it is very much maybe - microcomputer networks can pave the way to breaking hierarchical habits by showing that horizontal organisation can work in practice.

However the day of the micro has just about arrived, or is arriving, dependent upon your point of view. Several 8 bit models at less than £150 have enough immediate access store to accommodate a word-processor, can use a TV set as a monitor and drive a cheap dot-matrix printer costing around £200. Such a configuration can perform some useful jobs - like setting up and editing the text of a trades union branch newsletter - like setting up a mailing list of branch members on a cassette tape and using it to print sticky labels for distributing the newsletter.

Of course, if you really want power and want to join the second generation of micro users, you will go for one of the newer 16 bit machines. An Apricot with 256K store, keyboard, colour monitor and floppy disk drive can be had for about £1,000 and is more powerful than many a mainframe of yesteryear.

But it still remains the case that whatever micro you possess its best use is as an intelligent terminal to other systems. And the way into other systems is easier and cheaper than a few years ago because:

- 1) more networks exist - some free and open,
- 2) modems are getting better and cheaper.

Leaving aside sonic couplers (at about £50) the cheapest modems are about £60 and are coming down in price fast. These will cater only for 300/300 baud rate and involve manual dialling. At about £180 (and coming down) you can get a modem switchable between all standard baud rates (including Prestel 1200/75) together with auto-answer and auto-dial.

Now consider that a cheap 8 bit set up plus a cheap modem can talk over the public telephone system to any other cheap 8 bit set up plus a cheap modem. Consider also that two million home computers already exist and more cheap 8 bit set ups are available at knock down prices because they are being made obsolete by the 16 bit monsters. Proletarian network organisation is now a practical possibility! And, thanks to the wonders of modern telecommunications, we can make links cheaply internationally as well as locally and nationally.

Networks of Micros

To organize a network of micros amongst your mates properly requires good backing store. Disk drives are most sensible for their speed and reliability, but tend to be expensive. (For about £800 you can buy a dual disk drive for floppy disks with an on-line capacity equivalent to about 200 Prestel "pages"). However one person plays host with a disk drive and everyone else with a micro and a modem can use the backing store as a common area to read, write, delete and alter the common data - ideal for editorial collectives with geographically scattered members.

There are already a number of amateur host systems in existence. Some 46 of these run publicly accessible "bulletin boards" which are accessible 24 hours of the day. They advertise their existence on Prestel and in the micro magazines (3). The owners of these host bulletin boards and most of their callers are primarily enthusiastic hobbyists comparable to the Citizen Band "breakers". Consequently most of the information written to the bulletin boards is concerned with the technicalities and techniques of microcomputers. Much of this information is useful to micro users and potential hosts who are not hobbyists but wish to use the technology for other ends. The information freely given to bulletin boards by callers and freely available to all other callers looks like the beginning of a "communism of knowledge".

Whilst I appreciate the questions Jill Raymond asks (in "Computers - to use or not to use: a reply" reprinted in Black Chip 85/2, they are after all the same sort of questions we are discussing in Black Chip), I think it's important we discuss things clearly and rationally. Towards the end of her reply Jill Raymond manages to pull bits of the Book of Revelations, numerology, Aleister Crowley and the Falklands all into one!

I understand much of the criticisms about science, it is after all a product of male dominated Western capitalism, it is still preferable to pseudo-science and mysticism. We can't make computers and technology disappear by appealing to superstition (i.e. religion and mysticism). If our response is to have any value it must be rational and intelligent. Remember rationality does not mean unemotional.

Part of the problem with science and technology is that the majority of people do not understand what science is, what it does or how it works. Some people stand in awe of science, refusing to see its socio-political significance. Others see science as the embodiment of evil itself. I believe that science, as a human activity, is open to censure and debate. Parts of science are evil just as parts of science are good. We can only criticise and discuss when we know what we are talking about.

I would be interested in hearing other comrades' views and ideas on science and technology. Also if anyone knows of good radical critiques on the subject please write in and let me know. I would highly recommend the book "The New Apocrypha" by John Sladek (published by Panther/Granada), a very good and funny look at mystic pseudo-science.

As I've got pen to paper, I might also add that I disagree with Tom Athanasiou where he says that "...the only way for a scientist to opt out... (of military control)... is by quitting the priesthood altogether." (see "Mind Games" in Black Chip 85/2) I admit that this might contain an element of self-justification as at some future point I will be an engineer, part of the "priesthood" in industry. Is dropping-out the only option for the scientist who is politically conscious?

To me, the prospect of socialist, or even liberal, scientists opting out of active science and technology is appalling. I would hate to see science completely in the hands of people like William Shockley (co-inventor of the transistor and extremist racist) and Edward Teller (nuclear physicist and atomic warrior). Socialist technologists who are active in science are that much more effective. Surely Joseph Weizenbaum's critical work on AI is all the more powerful because he was an AI pioneer?

Trades Unionists and workplace activists often do not have the background information to make positive responses to new technology and science. Technologists and scientists can provide the help and advice for workers to come to their own decisions. Technologists are in good positions to know what's coming, well placed leaks of information are vital in confronting the plans of the state/industry. Also scientists can organise their own work places, do sabotage etc.

Dropping out is not the answer. All scientists and technologists who are serious in their anti-militarist or socialist beliefs should be actively uniting with workers and trades unionists. They should be attempting to become effective rather than totally ineffective. Remember that when the social revolution happens and the factories are in the hands of the community, radical technologists will be aiding in the formulation of community plans in the service of that community.

Pan

P.S. Any engineers or scientists reading this would be more than welcome to describe some of their own experiences and ideas. Anonymity guaranteed if you want it!

RESOURCES

I have a copy of the journal "Communities: a journal of cooperation", July/August 1983. In it are two long articles: "Should Your Group Get A Small Computer" pages 5-14 and "Computer Networking" pages 15-23, which are too long to print in Black Chip, unless I get very desperate for copy. However if any of the readers wishes to read a copy I'll gladly send a photocopy on receipt of a stamped self-address envelope and 50p to cover photocopying costs. They're quite interesting to read if overwhelmingly "American", which may lessen their relevance in Britain.

Secondly I'd like to recommend to anyone who hasn't already read them the articles on computing in the Glasgow based magazine "Here and Now": "Talking about my generation", which is a review of James Martin's "An Information Systems Manifesto" and Donald Michie & Rory Johnson's "The Creative Computer" pages 3-4 and 12; and "How the other half think": a commentary on an article in the local government magazine "Public Service and Local Government" on the uses of IT in local government, page 12. Rather than offer photocopies I'd suggest you write to Here and Now, Box 2, c/o 340 West Princes Street, Glasgow G4 9HF enclosing 50p plus an s.a.e. for a copy of their excellent magazine - all the other articles are recommended too as examples of reasonably well-thought out anarchist analysis (as opposed to polemic). If they've sold-out of copies then I'll gladly reprint in the next Black Chip as they're well worth reading.

A few words of thanks are due to the following comrades for giving this organ a mention in their columns: Crowbar, Freedom, Black Flag and Stuff It. There may be more but they're the only ones that have been brought to my attention. If other papers are giving us a mention please send me a copy and you'll get a copy of the next issue.

Computer Professionals For Social Responsibility

P.O. Box 717, Palo Alto, CA 94301 Telephone: (415) 322-3778

Title : Letter

Author : Steve Vickers

I have recently received some literature from Computer Professionals for Social Responsibility, a group based in California. Their main activities are concerned with publicising the dangers of the U.S. Strategic Defence Initiative (SDI). They have written a number of articles (listed below) and are at present, through Clifford Johnson, an ex-Sussex University computer specialist, taking Casper Weinberger to the Federal courts, stating that the "launch on warning" policy is unconstitutional (New Scientist 25 Oct 1984 and update in CPSR Newsletter Vol3 No3). They say that the decision should remain with the U.S. President. Personally I don't see it really matters whether it is constitutional or not but it is at least publicity of the problem. Like Electronics for Peace in this country they are pointing out the unreliability of computer software and hardware.

A good quote from their article "Star Wars computing": "The main reason for this second concern is the impossibility of testing the system under full-scale operational conditions. It is the universal experience of computer designers that reliability cannot be achieved without such testing. Since we have no spare planets on which to fight trial nuclear wars, operational testing of a global ABM system is impossible. The system would have to work first time. No computer system even a fraction of the size of the SDI system has ever worked perfectly in its first operational use."

Editorial comment :

I've reprinted the list of publications available from CPfSR below. I hope to be able to print selected items in future issues of Black Chip, providing I can get hold of copies. Steve has very kindly sent me a copy of "Strategic Computing" by Ornstein, Smith and Suchman and this will definitely be printed in the next issue of Black Chip and other articles which are not too long, will be published next year. I shall be sending copies of Black Chip to CPfSR and hope we can achieve a mutual exchange of materials.

EDUCATIONAL MATERIALS

The materials listed below are available for \$1.00 each, to cover postage and handling. Please indicate the number of copies of each publication that you would like. Order from: CPSR, P.O. Box 717, Palo Alto, CA 94301

COMPUTER UNRELIABILITY AND NUCLEAR WAR
CPSR/Madison (11 pages - October 1983)

STRATEGIC COMPUTING: AN ASSESSMENT
Severo Ornstein, Brian Smith, and Lucy Suchman (4 pages - June 1984)

ANNOTATED BIBLIOGRAPHY ON COMPUTER RELIABILITY AND NUCLEAR WAR
Compiled by Alan Borning (16 pages - updated October 1984)

ETHICAL QUESTIONS AND MILITARY DOMINANCE IN NEXT GENERATION COMPUTING
Paul Smolensky (6 pages - October 1984)

SELECTED AND ANNOTATED BIBLIOGRAPHY ON ISSUES IN PEACE, WAR, INTERNATIONAL RELATIONS, NUCLEAR WEAPONS, AND ARMS CONTROL
Compiled by Gary Chapman (8 pages - January 1985)

THE RESPONSIBLE USE OF COMPUTERS; WHERE DO WE DRAW THE LINE?
Christiane Floyd (4 pages - June 1985)

THE STAR WARS COMPUTER SYSTEM
Greg Nelson and David Redell (10 pages - June 1985)

THE LIMITS OF CORRECTNESS
Brian Smith (21 pages - June 1985)

An Extract from the CPSR Statement

As society becomes increasingly dependent on the power of computers for its vital functions, it becomes vulnerable as well. For example, while computers facilitate law enforcement, they may also invade our privacy and restrict civil liberties. A more serious danger is presented by the possible failure of critical systems such as those used to control air traffic, communications, or nuclear power plants. As we come to understand the potential power of computers, we need also to allow for their limitations. Failure to acknowledge these limitations leads to unrealistic assumptions about what computers can be counted on to do. When plans based on such assumptions involve critical systems, the dangers to society can become extreme.

Brief History of CPSR

CPSR began at a research centre in Silicon Valley as the result of conversations through a computer message system discussion group. This group was formed in October 1981 and consisted of about 150 people. Nine of the people most involved in these discussions also met personally for many weeks and finally held a public organisational meeting in June 1982, at which the name was chosen and issues and goals identified. Regular meetings have been held since that time in the Palo Alto area, and gradually similar groups started meeting in Boston, Madison, Seattle and elsewhere.

By March 1983 it was clear that a formal organisation was needed to hold these groups together. By-laws were drawn up and adopted and CPSR became a non-profit, tax-exempt, educational organisation incorporated in California. By July 1985 it had acquired over 700 dues-paying members, distributed among 12 chapters in the United States. It also has an increasing number of members from abroad, particularly from Canada, Australia, New Zealand and Western Europe. The national office (for the USA), is at 644 Emerson Street, Suite 9, Palo Alto, CA 94301, USA.

Robin Hood Replies to Jill Raymond

Jill Raymond writes an article in which she says we should not use computers at all. This isn't the first time that people working for social change have rejected new technology on the grounds that it is used to oppress. Before the peasants' revolts, clever lawyers acting on behalf of church and state had used their knowledge to steal land that was collectively owned or held in common. So, many peasants were in favour of burning books and destroying 'all that smacks of larnin'. Perhaps the fact that they were opposed to learning helps to explain why they were politically naive and were so easily betrayed.

More recently some people were against using coal or steel in any form. This was because of the sufferings of workers in the industrial revolution, and the connections that coal and steel industries had with war and the arms races of the time.

I'm not saying that socialists and anarchists should support absolutely every form of new technology without question, however it is used. Nuclear power is an example of something which is obviously harmful in almost any form. But - we need to think carefully and realistically before denying ourselves the power and the chance to change things which new technology can bring, even when the technology is used or developed by oppressors. Arguments against using something may seem very convincing at the time, but they often appear rather foolish when you look back on them afterwards. Would we really be much use if we were still opposed to reading, writing and the use of steel? Should we really deny ourselves the use of wire cutters because they are used to put up barbed wire round nuclear bases? Throwing our micros out of the window will not destroy a single M.O.D. computer. We need to think from the head as well as feel from the heart.

The argument that micro chips should not be used because they are made by exploited labour is (I admit) a strong emotional one. But I doubt whether it would do the women concerned much good if their factories were closed and they were forced into the brothels or back to the village because of what we did. In actual fact many of them probably will be forced out anyway by the factory owners

as the factories are automated and the current drop in micro sales begins to bite. A general boycott would simply allow the owners to put the blame for the suffering and unemployment which they cause onto us. A selective boycott of particular chips, when and if there's a strike over there, would be much better. It would help to forge links between the workers and us.

Another argument that Jill puts forward is that computers should be avoided because they are against Mother Earth. This idea would have seemed very strange indeed in times past. Take Stonehenge as an example. This stone circle is very much an attempt to link together the forces of the earth and the sun, and keep humans in touch with nature. But it is also a sophisticated piece of 'sky technology', as some of our own scientists - working with computers - are beginning to discover. The split between technology and intellect on the one hand, and the forces of the earth and nature on the other, is a product of our times. It wasn't always so. Our pagan forbearers used to delight in creating very intricately designed works of art. They would probably be extremely appreciative of what computer aided art can do nowadays. Nature itself can be very intricate and number oriented, as anyone who has seen snow crystals under a microscope will know.

All this might seem unconvincing to a programmer who plugs away at a terminal for eight or more hours a day, creating a system which controls nuclear weapons or the movement of non-disposable glass bottles in diesel driven lorries. But again, the fact that computer work often ends up like this comes from the way that our society is organised. Imagine instead a group of workers from a farming co-op, sitting in a windswept cottage in Winter. Suppose that they used a computer alongside their knowledge of plants, to plan the best arrangement for their crops next Spring. That's not so divorced from nature is it? Humans have been using their wits to learn how to work with natural forces ever since the first man (or was it woman?) cleared a patch of soil and planted the first wild seeds on it.

Computer programming is not for everyone and perhaps computers aren't

either. But there will always be individuals within a society who have a liking for logic, design and hard intellectual thought. So long as these individuals realise that other people and other skills matter too, they are perfectly capable of contributing to the common good. So I would say: if you like computers, use your micro to change society for the better, or use it in a way that is in harmony with nature. But don't just throw it out of the window.

ROBIN HOOD

ARTICLE

Title : ICL cashing in on US embargo with South Africa
Source : Computer Weekly , Thursday 18/7/1985

This report claims that ICL is planning to ignore any planned US trade embargo on dealing with the racist regime in South Africa. Since the report was printed Ronald Reagan has announced a partial embargo which has included computer systems. This is an attempt to disable the operation of the pass laws, which are totally dependent on computerised data retrieval.

According to the article, by George Black, ICL's South African manager Fred Luyt has written to local users assuring them that ICL will be staying in the country. Indeed he intends on installing 20 of ICL's new Series 39 mainframes in the country by the end of the year. A subsequent issue of Computer Weekly has reported that ICL has lost four important contracts recently, so it looks as though they are desperate for customers to replace earlier users.

Is it any coincidence that ICL's recent ex-chairman, Sir Michael Edwardes, who has claimed that black "leaders" do not support the economic boycott, is a white South African. Doubtless our great leader's stand against the combined forces of the EEC on economic sanctions is purely well-intentioned and has no connection with the efforts of British industry (which has a much higher percentage of its overseas investment in South Africa than the USA or any other country) to keep the profits rolling in from racist South Africa, and to prop-up the regime that ensures such large profit margins.

Finally I'm pleased that Computer Weekly is taking such a firm stand on this and other political issues - as I only infrequently see the paper I'll be pleased to receive any more clippings that can be used in future issues of Black Chip, e.g. the articles relating to the computer professionals resigning from the SDI (Star Wars) project on both technical and political grounds in a very recent issue.

ARTICLE

Title : Pentagon computer systems may have bugs.
Source: Input/output vol1/no1

As the time given to react to missiles being launched steadily decreases, the Pentagon is depending more and more on computer-based command and control systems. But they're not always right:

June 3/80 : A computer in the NORAD missile warning system malfunctioned, sending faulty information to a U.S. Strategic Air Command computer. The SAC computer displayed a report that two submarine-launched missiles were headed for the U.S. mainland. Seconds later it showed an increased number of submarine launches. Nearly 100 SAC bomber crews scrambled for their jets. But, just before take-off, the computer display cleared, indicating no attack at all. The malfunction was traced to a 46 cent integrated circuit in a communications multi-plexer, which randomly replaced zero with 2 (PCWorld Sept83)

Jan 4/84 : A nuclear attack warning was broadcast across Pennsylvania because of a mishap in installing an emergency warning system at the Pennsylvania Emergency Management Agency. A message was sent to police radio rooms and civil defence headquarters saying : "This is an attack warning. Supplemental information will be provided when available. Take appropriate action." One county decided to sound fire sirens throughout the district and notify emergency personnel of an imminent attack. Within five minutes of the alert, other counties were told to ignore it. The warning was caused by a botched transfer between floppy disks of canned emergency messages during installation of the AT & T emergency warning system. The message was transmitted rather than duplicated and was broadcast to counties already on-line with the new system. (Computerworld 9/84)

Sept 12/84 : The Pentagon announced that millions of poorly tested and "potentially suspect" computer chips were installed in advanced jet fighters, B-52 bombers, and anti-submarine warfare systems in the last eight years. It blamed the quality control problems on "lack of discipline" at Texas Instruments, the manufacturer. In March 1983, National Semiconductor, another chip maker, pleaded guilty to criminal charges that it had not adequately tested chips sold to the Pentagon and was fined \$1.7 million. The Defence Department was also investigating other companies for similar testing violations. (Citizen and Globe and Mail, Sept/Oct 1984)

Sept 12/84 : General Accounting Officer told Congress that about one-quarter of the Sidewinder and one-third of the Sparrow missiles used by the U.S. Navy for air-to-air combat were useless because of defects or maintenance problems. He also said 80% of the Marine Corps' TOW anti-tank missiles had "safety problems" that limited their use to "emergency situations". (Citizen Sept 19/84)

Sept 1984 : Hughes Aircraft, the largest supplier of missiles to the Pentagon, admitted that the TOW, Maverick and Phoenix missiles were faulty and said they'd do better. (Citizen 15/84)

LETTERS

Dear Richard,

Just a short note to give a bit of encouragement and to keep in touch.

The last issue of B.C. was interesting and welcoming, although there are definite ways in which it could be better.

It's a pity there is a lack of information, or communication (even access) to news of how computers are and have been used. For instance I remember reading a story about a prisoner in the U.S. who had access to the prison computer. After gaining a "trustee" status he slowly began to change the lengths of prison sentence of certain prisoners, even his own. (I believe he got away with this).

There are also "stories" about the way computers can be used to swindle multinationals/banks etc. or to gain confidential information or spread disinformation.

On the other side of the law there are the other uses of computers. Even though mostly they are used in offices, for business ...certain political and other organisations are using them. It might be interesting to hear what they are doing, possible interviews...?

One major problem is to get people over "technofright", introduce to them understandably how these new machines work and their possibilities (especially beyond business or games).

(.....)

How is your distribution, and what is the circulation so far. It might be an idea to advertise. Think BIG !!!!

Phil.

LETTERS

Dear Phil,

Many thanks for the letter and good wishes, you've no idea how important it is to get letters when you're producing a magazine. Criticism is also welcome as I need to know how the readership feels about the balance of articles. I would have preferred to have a better mix in each issue but I am at the mercy of the contributors. I haven't really got time to write anymore than I do (indeed I don't think that would be healthy for sales!!!). So ultimately the solution to the problem lies with our fellow readers. O.K. ?

With regard to our current circulation, the mailing list now has over 30 names and I sell another 15 in London shops. Obviously I could sell lots more if I did more copies of each issue. However the copier I use is not freely accessible (and I couldn't do it so cheap if it was done commercially) so the number of copies I can run off is limited. Also it's bloody boring!!! So if anyone knows of shops who would like to sell Black Chip please give them a copy and then ask them to copy it themselves - it's totally non-copyright - and it saves me a lot of hassle. Apologies if that sounds lazy but I don't have the time to stand around running off 100 copies of Black Chip - but if someone else wants to, please be my guest. As a non-profit making enterprise I don't mind anyone helping to distribute the paper by doing more copies.

Richard

LETTERS

Dear Richard,

Actually I do feel that a different name is needed for your fanzine since being quite a connoisseur of anarchist fanzines I do detect a radical difference between your fanzine and all of the other publications and that is that it would not offend a lefty. How about "Radical Computing ?" What I mean by this is that whereas all other pamphlets deal exclusively with anarchist politics yours covers computers and then computers with anarchy, whereas others always deal with world class revolution you deal with computer revolution. In short you are not as fanatical as most fanzine anarchists are since whereas anarchism is their primary obsession, computing is yours. Therefore on reading the mag I realized that it would not be read exclusively by anarchists. If you do not agree with what I am saying obtain a copy of "Tear It Down" (hard to do as it has been banned) it serves as a prime example of how obsessed people become by anarchy. Also in your radical political moments you seem conspicuously less aggressive than your average anarcho, which is no bad thing in my opinion. Nevertheless the whole idea is very intriguing and frightening potentially.

However you have not converted me to computers yet. A lot of my technophobia has been instilled in me by taking of Computers "O" Level at school at which I scored a grand total of 2.5% (2.5 for the program on calculating the area of a square, 0 marks for the exam in which I did not write anything). Another experience is putting me off technology and that is walking down the road and thinking either :

A) would not the environment appear so much more enriched if instead of all the disgusting office blocks, the stench of industrialism, the grinding macabre factories, the cosmetic plastic shopping precincts, the desperate vandalism and demolition sites there was the rolling fields and meadows of yesteryear. Yet all I ever see is Mr Industrial puking further over the last remaining drops of nature with his bright new technological dream.

B) would I really be so bored and lonely if all those innane shits locked up in their homes and chained to their technology thought of talking to something more human for once.

FACTS :

The percentage of people owning a television in Britain has risen to 98%. The average American child has viewed 5300 hours of telly before reaching the age of four. My mum watches at least four hours a day. The producer of Dynasty earns £25,000,000 annually. People have become so dependent on their own little television world that one can say in all certainty that if the television was abolished tomorrow people would find their lives so lacking there would be a major revolution. Accounting for the fact that television is such a formidable and addictive DRUG, Thatcher plans to rapidly increase broadcasting time. Realizing that the unemployed are dissatisfied with her boring dole she now proposes "quality television" right up until the afternoon. If the money can't keep them quiet the television will. All technology is just a fantasy to give people with vacuous lives some false power.

I frequently realize that I don't need drugs to relieve my sporadic loneliness I need people to stop staring at their screens and talk to me instead.

I hope I have not offended you here as you seemed quite decent in your last letter

Yours (till the rain stops)

Marcel Vomit.

LETTERS

Dear Marcel,

Many thanks for the letter and kind thoughts expressed therein. You're quite correct about the tone of the magazine. I can't see how anyone could get properly aggressive and angry using a computer. Not only that but the magazine is meant to be means of communication between equals (albeit via the imperfect medium of an editor!) rather those "in the know" shouting abuse or showing off to an imaginary audience, an attitude that seems to exclude people. Another point is that I try to avoid polemical political articles as there are plenty of other papers that cater for them, but none deal exclusively with computers from an anarchist viewpoint.

I could take issue with the assumed "naturalness" of yesteryear but it would be irrelevant to the main point of your letter that people are becoming increasingly trapped into domestic and private consumption which destroys communication and community, although Jack Jones' article on Networking in this issue shows that even computers can be used to promote both communication and community - although of an electronic kind.

Finally I must add that we're not in the business of selling computers - many of the readers of the paper are very sceptical of their utility and we're all well aware of the dangerous uses they can be put to by those in power.

Hope you keep in touch, if anyone else from Birmingham would like to contact Marcel I'd be pleased to pass on any letters, just write c/o Black Chip.

Yours,

Richard.

We have received the following missive from ROMRAT from somewhere in the south of England. Black Chip is publishing this information on the understanding that none of our readers would be so wicked as to defraud British Telecom of its hard-earned money. We also disclaim any responsibility for any damage anyone might do to their equipment by using this information. Neither the publishers, editor, typist or ROMRAT themselves have tried to use this equipment as none of us has a modem!!!

"Everybody by now is familiar with "The Hackers Handbook" by Hugo Cornwall. Well on pages 46/47 the barebones of a circuit to receive incoming calls, at no cost to the caller, is given. All that is missing are the component values and their positions in the circuit."

Now as I haven't got time to draw out ROMRAT's diagram I shall simply refer readers to the book themselves for the actual diagram, (which was originally found on a bulletin board). The component on the top line is a Single Pole Single Throw switch (whatever one of them is!); the component on the second line is a 1N4003 diode; on the next line are, from left to right a 6.2K ohm 0.5watt resistor and a standard 0.2 LED; and on the final line is a 0.1microfarad 250volt dc capacitor. The value of this last component is not certain so you may have to tinker around to get the speech quality right. Apologies to everyone if I've got the names of some of these wrong but my set-up doesn't print funny electrical signs, or if it does, I don't know how!!!

Well if you understood any of that, and none of the production team did, you can now build yourself something that could earn you 3 months inside if you ever use it. Of course you could just build it for the fun of it and not use it and that would be totally legal, especially if you haven't got a computer, a modem or a phone.

P.S. Would someone like to do a serious review of "The Hacker's Handbook" for the next issue of "Black Chip".

Electronics for Peace

LONDON GROUP

Electronics for Peace is a network of people, principally working in the electronics and computing industries, who are concerned about the military implications of their profession. It is open to all those with an interest in electronics or computing.

FOR MORE INFORMATION PLEASE CONTACT:

LOUIS BARMAN

89 ACRE ROAD
KINGSTON UPON THAMES
SURREY KT2 6ES
TEL: 01 541 1825

THE LONDON GROUP OF EfP IS ON THE 1ST THURSDAY EACH MONTH AT 7.30 PM

AT: LONDON NEW TECHNOLOGY NETWORK, 68-100 ST. PANCRAS WAY (off Camden Road) LONDON NW1 9ES

TUBE: CAMDEN TOWN B R: CAMDEN ROAD

MACHINE INTELLIGENCE OR ARTIFICIAL INTELLIGENCE

MI on the other hand has nothing to do with human style intelligence and is essentially a semi-mechanical process that depends on sophisticated programming techniques to function. Most of what passes for AI research (eg Expert Systems, Fifth Generation etc) is actually MI research. It is precisely because MI has nothing to do with consciousness that it is dangerous. The Expert System has no consciousness and no awareness, it works through its rules via heuristics and its solutions mean nothing to it. Yet such systems could soon be in executive rather than advisory positions. An MI system that cuts off a family's social security payments would not understand either what it had done nor what the consequences were. The Pentagon would like such MI systems to run the missile silos precisely because they would have no understanding of nuclear war.

AI offers much, apart from a path to the understanding of our own thought processes, it offers us a chance to engage with another conscious intelligence. Let's face it, the prospect is vastly exciting. And the actual benefits could be immense.

MI offers us nothing more than further exploitation and with it further dehumanization of labour. If a machine can do the same job as a person isn't that person reduced even further to the level of a machine?

Personally I can well understand why it serves the interest of the state to deliberately call MI Artificial Intelligence. Machine Intelligence is, after all, a very graphic term.

Pan

P.S. I would highly recommend Weisenbaum's book "Computer Power and Human Reason" to anyone interested in AI.

Artificial Intelligence as a field of research has existed for around thirty years or more. Originally it was more to do with psychology than computers, and was seen as a tool or model to explain and examine various forms of human intelligence.

However in the past few years, (from the setting up of the Japanese MITI Fifth Generation project I would say) AI has become a hyped-up buzz-word that is used by scientists and engineers working for the military-industrial complex to get funds from the state for research. The original aims of AI have largely been swamped in the rush for dollars. What is more AI has now become almost synonymous with the "Expert System", which is well described in the last issue of Black Chip.

I would suggest that what passes for AI research, aims and methods today is not AI at all but a separate and distinct field of Machine Intelligence (MI). It could be suggested that this is just a play on words but I am convinced that there is a difference between AI and MI, and furthermore the two are deliberately kept confused in order to allay fears about the effects of MI.

Okay, let's clarify terms. AI has to do with human intelligence, it is a way of testing and suggesting hypotheses in how human beings "think". Human thinking is not a mechanical process, it includes consciousness and (crucially) emotion. Some forms of AI research attempt to reproduce human style intelligence in machines using both computer software and hardware. The essential feature is that consciousness is a part of intelligence and part of any AI system. I haven't tried to define intelligence or consciousness believing them to be self-evident to any intelligence or consciousness.



DO YOU WISH YOU WERE
BETTER INFORMED ?

THEN YOU SHOULD SUBSCRIBE TO BLACK CHIP !

SEND £2.00 FOR THE NEXT 4 COPIES OF YOUR
FAVOURITE MAGAZINE.

ALL SUBSCRIBERS ARE LICENSED TO DO UNLIMITED
PHOTOCOPIES TO SELL TO THEIR FRIENDS !

SEND YOUR MONEY TO RICHARD ALEXANDER,
55 DUPONT ROAD, LONDON SW20 8EH

THE COMMUNICATIONS CAMPAIGN

The communications industries have become very big business. Everybody uses some form of communications service or system every day of their life. Telephone, television or a newspaper at home. Computer, radio link or international database at work. Huge companies are making vast profits from this, the major growth industry in the world, while fewer people in Britain can afford a phone, and thousands of workers have been thrown on the dole queue.

The bush fire of technological and commercial change is roaring through these industries in a completely uncontrolled and unplanned way.

The government has fanned the flames by privatising British Telecom, the core of public communications in the UK, and by opening the public telecommunications service to competition by private companies like Mercury Communications Ltd.

If this haphazard development in the broad industry continues unchecked, the benefits of new technologies and the new facilities that they make possible will be made available only to the rich and powerful. However, if they were drawn together into an integrated system they might serve the needs of the whole community. Telephone, postal, community and media services and resources, working together in a co-ordinated way as a public service, would not only provide facilities needed by industry but also improve the quality of life for all sections of society.

Members of trade unions use the technologies at work, but also need some of the facilities to enable them to organise and plan effectively for their own future. One-parent households, old people, and others with low incomes need information to run their lives well, but can't afford to exist as paying members of the "information society" and may thus join the ranks of the "information poor". Local authorities and governments want to promote economic growth in information technology and services, but as well as jobs they also need to secure and develop welfare and services.

The steering committee invites your participation in this work. You can join in with:

- ideas about communication services you think are needed
- information and views about where and when information technology displaces, disperses or creates jobs
- information about the effects of the privatisation of British Telecom on workers, subscribers, and workers in other parts of the industry
- information and views about the communications needs of the whole community, and particular groups of people with special needs.

Taken together, these all imply that the future of the communications industries must be broadly and sensitively planned in an integrated way.

"The Communications Campaign" aims to draw together communications workers, users, and local authorities to develop a plan for an integrated communications system. The campaign has been promoted by a group of workers in British Telecom, concerned about the future of their industry, and by the GLC.

A programme of information and education will aim to keep workers and users of communications services "in the know" about the latest developments in the industry, their effect on jobs and services, and some ideas about what we can do about them.

Over the next year a series of pamphlets will be produced on topics such as: the future role of postal services, the cable industry, broadcasting and publishing, the role of computers in telecommunications, the way new technology has affected women's employment in the communications industry, public information services, and current developments in the public telephone network.

The campaign will arrange a series of workshops to allow communications workers and users to consider how all the parts of the industry should be working together in the interest of the whole community.

The ideas developed in the pamphlets and workshops will be drawn together into a plan for the industry at a "Communications Conference" in March 1986. The plan will refer to policies which trade unions can develop and pursue. It will also refer to actions and support required from local and national government.

To make sure that all parts of the industry are properly covered in the programme, a steering committee has been set up. It meets monthly on the last Tuesday to approve drafts of pamphlets, organise the workshops, and prepare for the conference. At each meeting one member introduces a discussion about a particular part of the industry. In this way, meetings not only deal with business relating to the direction of the campaign, but also provide a useful forum for the discussion of the latest developments.

This will not be an academic exercise. Any plan for an integrated communications system will have to focus on issues like:

- the operating principles of services
- how they should be paid for; and
- how they should be owned and controlled.

A plan will also have to produce ideas about how the services can be developed to meet the new and unmet needs of the community and of workers.

The Communications Unit, The Showroom, South Block, County Hall, London, SE1.
or telephone 01-633 5958 and speak to SLIM HALLETT or WILF NICHOLLS.